

IN THE CLAIMS:

Please amend the claims as set forth below. Please note that all claims currently pending and under consideration in the referenced application are shown below for clarity.

47. A conductive element at least partially formed on at least one semiconductor device component, comprising a plurality of superimposed, contiguous, mutually adhered layers of conductive material.

48. The conductive element of claim 47, wherein said conductive material comprises a thermoplastic conductive elastomer.

49. The conductive element of claim 47, wherein said conductive material comprises a metal.

50. The conductive element of claim 47, configured to be carried by a single semiconductor device component.

51. The conductive element of claim 47, configured to at least partially electrically connect two semiconductor device components.

BT
C2

52. (Amended) A semiconductor device comprising:
a semiconductor device component; and
at least one conductive element carried by said semiconductor device component, said at least one conductive element including a plurality of superimposed, contiguous, mutually adhered layers comprising conductive material.

53. The semiconductor device of claim 52, wherein said at least one conductive element is substantially entirely carried by said semiconductor device component.

54. The semiconductor device of claim 53, wherein said semiconductor device component comprises a layer of a carrier substrate.

55. The semiconductor device of claim 53, wherein said semiconductor device component comprises a dielectric layer disposed on an active surface of a semiconductor die.

56. The semiconductor device of claim 52, wherein said conductive material comprises a thermoplastic conductive elastomer.

57. The semiconductor device of claim 52, wherein said conductive material comprises a metal.

58. The semiconductor device of claim 52, wherein said at least one conductive element communicates with a contact of said semiconductor device component.

59. The semiconductor device of claim 58, wherein said semiconductor device component comprises a carrier substrate.

60. The semiconductor device of claim 58, wherein said semiconductor device component comprises a semiconductor die.

61. The semiconductor device of claim 58, wherein said semiconductor device component comprises a packaged semiconductor device.

62. The semiconductor device of claim 52, wherein said semiconductor device component comprises leads.

63. The semiconductor device of claim 62, wherein said at least one conductive element contacts one of said leads.

64. A semiconductor device assembly, comprising:
a carrier; and
at least one semiconductor die adjacent said carrier, said semiconductor die including bond pads;
and
conductive elements electrically connecting contacts of said carrier to corresponding bond pads,
each of said conductive elements including a plurality of superimposed, contiguous,
mutually adhered layers comprising conductive material.

65. The semiconductor device assembly of claim 64, wherein said carrier comprises a carrier substrate.

66. The semiconductor device assembly of claim 64, wherein said carrier comprises leads.

67. The semiconductor device assembly of claim 64, wherein said conductive material comprises a thermoplastic conductive elastomer.

68. The semiconductor device assembly of claim 64, wherein said conductive material comprises a metal.

69. A semiconductor device assembly, comprising:
a semiconductor device having a plurality of contacts; and
at least one other semiconductor device having another plurality of contacts; and
at least one conductive element connecting at least contact of said plurality of contacts with a
corresponding contact of said another plurality of contacts, said at least one conductive

element including a plurality of superimposed, contiguous, mutually adhered layers comprising conductive material.

70. The semiconductor device assembly of claim 69, wherein said conductive material comprises a thermoplastic conductive elastomer.

71. The semiconductor device assembly of claim 69, wherein said conductive material comprises a metal.

72. The semiconductor device assembly of claim 69, further comprising a carrier to which said at least one semiconductor device and said at least one other semiconductor device are secured.

73. The semiconductor device assembly of claim 72, further comprising at least one other conductive element connecting at least one contact of at least one of said semiconductor devices to a contact of said carrier.

74. The semiconductor device assembly of claim 73, wherein said at least one other conductive element comprises a plurality of superimposed, contiguous, mutually adhered layers comprising conductive material.

75. A semiconductor device assembly, comprising:
a first semiconductor device component including at least one contact pad;
a second semiconductor device component including at least one contact pad; and
at least one conductive element connecting said at least one contact pad of said first semiconductor device component to said at least one contact pad of said second semiconductor device component, said at least one conductive element comprising a plurality of superimposed, contiguous, mutually adhered layers comprising conductive material.

76. The semiconductor device assembly of claim 75, wherein said conductive material comprises a conductive elastomer.

77. The semiconductor device assembly of claim 75, wherein said conductive material comprises a metal.

78. The semiconductor device assembly of claim 75, wherein at least one of said first and second semiconductor device components comprises a semiconductor die.

79. The semiconductor device assembly of claim 78, wherein said at least one of said first and second semiconductor device components comprises a packaged semiconductor die.

80. The semiconductor device assembly of claim 75, wherein each of said first semiconductor device component and said second semiconductor device component comprises at least one semiconductor die.

81. The semiconductor device assembly of claim 75, wherein at least one of said first and second semiconductor device components comprises a carrier substrate.

82. The semiconductor device assembly of claim 81, wherein said carrier substrate includes a support structure and at least one conductive element in communication with said at least one contact pad thereof.

83. The semiconductor device assembly of claim 82, wherein at least one of said at least one conductive element and said support structure comprises a plurality of superimposed, contiguous, mutually adhered layers of material.

84. The semiconductor device assembly of claim 75, wherein said at least one conductive element is located on a surface of each of said first and second semiconductor device components.

85. The semiconductor device assembly of claim 84, wherein said at least one conductive element extends across a peripheral edge of at least one of said first and second semiconductor device components.

86. The semiconductor device assembly of claim 80, further comprising a carrier substrate upon which at least one of said semiconductor dice is disposed.

87. The semiconductor device assembly of claim 86, further comprising at least one other conductive element connecting at least one other contact pad of at least one of said semiconductor die to at least one contact pad of said carrier substrate.

88. The semiconductor device assembly of claim 87, wherein said at least one other conductive element comprises a plurality of superimposed, contiguous, mutually adhered layers of conductive material.

89. The semiconductor device assembly of claim 88, wherein said conductive material comprises a conductive elastomer.

90. The semiconductor device assembly of claim 88, wherein said conductive material comprises metal.

91. A circuit board, comprising:
a substrate including at least one layer of dielectric material; and

at least one conductive element comprising a plurality of superimposed, contiguous, mutually adhered layers of conductive material.

92. The circuit board of claim 91, wherein said substrate comprises a plurality of superimposed, contiguous, mutually adhered layers of dielectric material.

93. The circuit board of claim 91, wherein said at least one conductive element comprises a via that extends substantially vertically through said substrate.

94. The circuit board of claim 91, wherein said conductive material comprises a thermoplastic conductive elastomer.

95. The circuit board of claim 91, wherein said conductive material comprises a metal.

96. A flip-chip type semiconductor device, comprising:
a semiconductor die having bond pads on an active surface thereof; and
conductive elements connecting said bond pads to corresponding contact pads disposed in an area array over a surface of the flip-chip type semiconductor device, at least one of said conductive elements including a plurality of superimposed, contiguous, mutually adhered layers comprising conductive material.

97. The flip-chip type semiconductor device of claim 96, further comprising a carrier on which said contact pads are disposed in said area array to which said conductive elements are connected.

98. The flip-chip type semiconductor device of claim 96, wherein said conductive elements extend laterally over said active surface of said semiconductor die.

99. The flip-chip type semiconductor device of claim 98, wherein said conductive elements are separated from said active surface by way of a dielectric layer.

100. The flip-chip type semiconductor device of claim 99, wherein said dielectric layer is stereolithographically fabricated.

101. The flip-chip type semiconductor device of claim 98, further comprising a protective covering over laterally extending portions of said conductive elements.

102. The flip-chip type semiconductor device of claim 101, wherein said contact pads are at least electrically exposed through said protective covering.

103. The flip-chip type semiconductor device of claim 101, wherein said protective covering is stereolithographically fabricated.

104. The flip-chip type semiconductor device of claim 96, further comprising conductive structures positioned on at least some of said contact pads.

105. The flip-chip type semiconductor device of claim 104, wherein at least one of said conductive structures includes a plurality of superimposed, contiguous, mutually adhered layers comprising conductive material.